CHED Philippine Higher Education Research Network Sustainability Studies Program
Angelo King Institute for Business and Economic Studies
in Cooperation with Department of Science and Technology
and De La Salle University - Manila

Research Forum on Economic Systems Modelling for Disaster Risk Assessment

26 FEBRUARY 2019 / 8:30 AM – 4:15 PM / Badjao Room, Century Park Hotel, Manila

DISCUSSION SESSION MINUTES

Moderator: Dr. Michael Angelo Promentilla

1. How can these disaster risk assessment models be applied?
    a. Highway and power infrastructure network analysis
    b. Regional interconnectivity/interdependence
    c. Resource allocation - supply chains
    d. Capacity building and research expertise are needed by the government.
2. Have these tools been accepted by government agencies?
    a. The current challenge faced by the academe is that these science-based tools are very useful but government agencies often do not make use of these tools and estimates in policy-making activties.
    b. Department of Health has no capacity to estimate losses in health infrastructure in the event of disasters. Supply chain management studies and other health-related case studies are needed by DOH.
        i. DOH is willing to collaborate with DLSU.
        ii. Disaster-REALM's applications can be extended to predictive estimates for health infrastructure related issues.
    c. Philippine Rice Institute's current initiatives:
        i. Damage assessment estimates are being done for rice areas flooded and rice areas damaged but economic/monetary losses have not yet been estimated due to lack of research.
        ii. The current tools presented in the forum can be explored by the government.
    d. NEDA has been using disaster-risk assessment tools to pass budget proposals
        i. This has been used to propose a supplemental budget for the Philippines after Typhoon Yolanda.
        ii. The Philippines is in need of databases at a local/microeconomic level in order to appreciate the usefulness of disaster-risk assessment tools as these are especially needed by local government units.

    e. DLSU-SOE has developed a local-CGE model but needs data to be able to pilot test the model.
        i. Both Quezon and Camarines Norte provinces are willing to provide their 2019 CBMS data and collaborate with DLSU to study and assess disaster-risk in these provinces.
3. Have there been efforts to validate the accuracy of predictions generated by Disaster-Risk Assessment tools?
    a. There is no way to validate the predictions of current models.
    b. Only the best models with the best data can generate the closest possible estimations.
4. How can damage data estimates be generated?
    a. Usually, quick but rough estimates should be generated (overestimations are preferred) to be able quickly address disaster impact.
5. How can the definition of risk be operationalised so that it can be more easily understandable to the general public?
    a. A heat map summary graphic is currently being developed to aid policymakers in interpreting results generated by these models.
6. How can the uncertainty level of the model be estimated and addressed?
    a. Since these models are deterministic, uncertainty cannot fully be estimated but sensitivity analysis is often employed to assess the accuracy of the estimations.
    b. To deal with the accuracy of results, lower and upper bound estimates are generally generated.
7. Philippine Statistic Authority is also struggling with collecting environmental data from government agencies such as the Department of Agriculture.
8. Are there current literature/methodologies related the 2nd and 3rd tier Sustainable Development Goals? Is there current literature that integrates/includes long-run effects in disaster-risk estimates?
    a. Health literature: dengue, psychological impacts of terrorist attacks,
9. Can we already assess impact of natural hazards (e.g. droughts) through the web-based tool?
    a. As a climate research, he is in better position to estimate the effects
    b. You can use the tool to simulate other situations, a good way to estimate a range.
10. Re: Dr. Tiongco’s study: could the study zoom in to a micro-perspective?
    a. FIES data shows a representation of income and consumption effects
11. Effects of energy sector disruptions on a localized level hopefully can be zoomed in; last year, DOE launched a program on energy resiliency, possible grounds for future research; energy

prices before and in the aftermath of the disaster; web-based app can look into oil supply (domestic and int'l)
    a. Look into balancing of resources with energy supply in existing and emerging techs
12. Are we ready to be data-driven in terms post-disaster work (evaluation, learning, estimation of damage) in the context of the Sendai Framework?
    a. Separate gov't/ gov't agency studies (Japan)
    b. After Sendai, the JPN Gov't tried a more systematic way of reporting post-disaster events.
    c. Quezon: Preparedness program, Land Use and Tourism plan, DRRM (12-year framework plan); CBMS; Partnership with academe
    d. DOH: For natural disasters, the DND do the post-disaster studies; moves on which gov't agency is the repository of disaster information; PSA/OCD is said to be the agency (but status is unknown); sector-specific concerns (interpretation of terms of Sendai)
    e. Extension to models can help discover more about uncertainty and be more "realistic" with estimations
13. Could the open data initiative by user-friendly?
    a. PSA: disaster-related stats are still on the baseline; disaggregation of data is still a challenge
14. Institutional Review on DR
    a. Increased budget for DR and Management; Project NOAH; Internal review of procedures; Review on DRR Law; studies on post-disaster intervention
15. National Exposure Database
    a. No established baseline
    b. Long-awaited plan to establish
    c. An area that gov't and academe can collaborate
16. Tornado Map
    a. Is Monte Carlo simulation possible?
17. Do you consider government intervention or bureaucracy as a factor that can affect DRR?
    a. We use data that can translate to policy
    b. Deviation from "normal behavior"
    c. Scientists advocate for evidence-based policy